

Work Order ID 114854

March-17-14 8:26:09 AM

114854

Page 1

Item ID: D206-667-207BL

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Aft Mid Height Crosstube 206L/L1/L3/L4, Blue

Start Date: 3/17/14 Start Qty: 1.00

1

Cust Item ID:

Required Date: 3/31/14 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 14-03-17 Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D206-667-247	A (DEO)								
IIN-D206-667	D								

100

Document Control

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile and create labels as per PPP D206-667-207 chg 002

*cu*DAS
06
9-89

JUN 17 2014

110

BENDING MACHINE - CROSSTUBES

0.00

110

CNC Bend 2

Memo

0.00

CNC Alpha 160 Bender

Bend tube as per Dwg D206-667-247 using CNC bender program D206-667-207

JW 14-05-28*PBC*

DQA:

Date:

19/07/11

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed:

Date:

14-7-3

Work Order update only ☐

Work Order: <u>114854</u>	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input checked="" type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS			
Part No. <u>D206-667-207B4</u>		Skid-tube <input type="checkbox"/>	Crosstube <input checked="" type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>
NCR No. <u>14-3996</u>		Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>
		Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>
		Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data	14/5/24	110	1	CRUSHING IS over tolerance	DAS 12 9-89	Acceptable. Location is not critical in bending	DAS 12 9-89	DAS 16 9-89	DAS 16 9-89
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input checked="" type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
---	--	---	--	--

March-17-14 8:26:09 AM

Page 2

Accept

Setup Start *NS1*

NS1

Stop *NS2*

Cust Item ID:

Customer:

Reference:

Run Start *NR1*

Stop *NR2*

Operation Description

Set Up/ Run Hours

[illegible]

120

QC15- Crosstube Dimensional Check

0.00

120

QC

Memo

0.00

Quality Control

6 14/06/02

Work Order ID 114854

March-17-14 8:26:09 AM

114854

Page 4

Item ID: D206-667-207BL

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Aft Mid Height Crosstube 206L/L1/L3/L4, Blue

Stop ***NS2***

Start Date: 3/17/14 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 3/31/14 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
	Drill only the top (2) holes.								
	***** ENSURE PROPER JIG POSITIONING BEFORE DRILLING***** VERIFIED BY: <i>[Signature]</i> *****								
	6- C'sink holes as per dwg D206-667-247. Allow rivet to sit below surface to compensate for paint.								
	7- Scribe tube to identify on the inner chamfer in the cuff D# and B#								
	8-*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***Debur & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-247								

BL/E 14-06-02

EB 14-06-03

140

QC5- Inspect part completeness to step on W/O 0.00

140

DAS
27

QC

9-89

Quality Control

Memo 0.00

*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

14/6/13

March-17-14 8:26:09 AM

Page 7

Accept

Setup Start *NS1*

Stop *NS2*

Start Date: 3/17/14 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 3/31/14 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/
Work Center ID

Operation Description

Set Up/ Run Hours

Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
---------	--------	-----------	------------	------------	---------------	-------------

200

0.00

200

SprayPaint

0.00

SprayPaint

Memo

Spray Painting

***** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*****

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube as per QSI 005 4.2

PRIME: m 128927

Start Time: 1:00

Fininsh Time: 1:30

PAINT: M 129 179

Start Time: 5:30

Finish Time: 6:00

clear: m129058

210

QC14- Inspect Spray Paint

0.00

210

QC

Memo

0.00

Quality Control

Wrap in plastic bag to protect from scratches

DAS
41
9-89

14-G-10

Order ID 114854

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Page 9

Item ID: D206-667-207BL

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Aft Mid Height Crosstube 206L/L1/L3/L4, Blue

Start Date: 3/17/14 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 3/31/14 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

250

Pick Kit

0.00

250

Packaging

Memo

0.00

Packaging

DAS
32
9-89

14/4/16 C

DAS
06
9-89

260

QC4- 100% Inspect kits for completeness

0.00

260

QC

Memo

0.00

Quality Control

DAS
06
9-89

JUN 17 2014

270

Packaging

0.00

270

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D206-667-207
Location: 0-5A11
PPP Rev: _____

JUN 17 2014

DAS
06
9-89

M.D.

Order ID 114854

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17-14 8:26:09 AM

Item ID: D206-667-207BL

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Aft Mid Height Crosstube 206L/L1/L3/L4, Blue

Start Date: 3/17/14 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 3/31/14 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

280

QC21- Final Inspection - Work Order Release

0.00

280

QC

Memo

0.00

Quality Control

14/6/18
14-6-18

14 8:26:12 AM

Page 1

Work Order ID: 114854

114854

Parent Item: D206-667-207BL

***D206-667-207BL ***

Parent Item Name: Aft Mid Height Crosstube 206L/L1/L3/L4, Blue

Start Date: 3/17/14

Required Date: 3/31/14

Start Qty: 1.00

Required Qty: 1.00

Comments: RevA 11.01.13 New Issue EC verified by:DD
11.08.08 PER ECN 11-615 DD VERF:EC

IPP REV:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D206-667-247TRN

Manufactured No

110

Each

6.0000

1
**

1

JW 14-05-28

D206-667-247TRN

B115044

Crosstube Assembly, Mid Aft

Location

Loc Qty

Loc Code

LG014

6

104918

1

105213

1

105215

1

109227

1

109228

1

109229

1

D2873-043

Manufactured No

220

Each

52.0000

2
**

2

D2873-043

Nut Plate Assembly

Location

Loc Qty

Loc Code

LG052

52

104871

1

107964

20

112264

31

D2873-045

Manufactured No

220

Each

57.0000

2
**

2

D2873-045

Nut Plate Assembly

Location

Loc Qty

Loc Code

LG

40

112430

40

LG052

17

108829

17

CR 14-06-08

CR 14-06-08

Order ID: 114854

114854

Parent Item: D206-667-207BL

*D206-667-207BL *

Parent Item Name: Aft Mid Height Crosstube 206L/L1/L3/L4, Blue

Start Date: 3/17/14

Required Date: 3/31/14

Start Qty: 1.00

Required Qty: 1.00

MS20601-AD4W10

Purchased

No

220

Each

158.0000

14

14

MS20601-AD4W10

RIVET

**

CR 14-06-08

Location

Loc Qty

Loc Code

LG050

158

M127301

58

M127578

100

D2892-1

Manufactured

No

230

Each

16.0000

2

2

D2892-1

Support

**

AS 14-6-10

Location

Loc Qty

Loc Code

LG052

16

103634

2

105652

14

D3595-063-450

Manufactured

No

230

Each

60.0000

4

4

D3595-063-450

Rubber Cushion

**

AS 14-6-10

Location

Loc Qty

Loc Code

FG

15

88422

5

94274

10

FP

3

111922

3

LG

40

111000

10

111538

20

112445

10

LG051

2

109526

2

14 8:26:13 AM

Work Order ID: 114854

114854

Parent Item: D206-667-207BL

*D206-667-207BI *

Parent Item Name: Aft Mid Height Crosstube 206L/L1/L3/L4, Blue

Start Date: 3/17/14

Required Date: 3/31/14

Start Qty: 1.00

Required Qty: 1.00

MS21920-22

Purchased No

230

Each

131.0000

4

4

MS21920-22

Clamp

**

AS 14-6-10

Location

Loc Qty

Loc Code

LG050

131

M127255

40

M127608

41

M128199

50

AN5-10A

Purchased No

250

Each

424.0000

10

10

AN5-10A

BOLT

**

DAS 32 9-89
M128634
DAS 31 9-89

DAS
06
9-89

Location

Loc Qty

Loc Code

GA

101

122800

101

ST362

116

M127432

116

st503

207

M126180

207

AN5-32A

Purchased No

250

Each

364.0000

4

4

AN5-32A

Bolt

**

DAS 32 9-89
14/6/14

DAS
06
9-89

Location

Loc Qty

Loc Code

ST337

134

124215

130

m127363

4

st503

230

m127550

30

m128403

200

M128403

DAS 31 9-89

Work Order ID: 114854

Parent Item: D206-667-207BL

Parent Item Name: Aft Mid Height Crosstube 206L/L1/L3/L4, Blue

114854

D206-667-207BL

Start Date: 3/17/14

Required Date: 3/31/14

Start Qty: 1.00

Required Qty: 1.00

AN5-34A

Purchased

No

250

Each

114.0000

4

4

AN5-34A

Bolt

**

DAS
32
9-89

DAS
31
9-89

DAS
06
9-89

Location

Loc Qty

Loc Code

ST338

114

m126176

14

m127817

14

m127933

36

m128403

50

MS21042L5

Purchased

No

250

Each

816.0000

4

4

MS21042L5

Nut

**

DAS
32
9-89

DAS
31
9-89

DAS
06
9-89

Location

Loc Qty

Loc Code

GA

5

117611

5

ST315

311

m127304

311

ST509

500

m127813

500

NAS1149D0563J

Purchased

No

250

Each

5,011.000

18

18

NAS1149D0563J

Washer

**

DAS
32
9-89

14/4/14

DAS
06
9-89

Location

Loc Qty

Loc Code

GA

273

m125807

273

ST510a

4738

m126319

2738

m128257

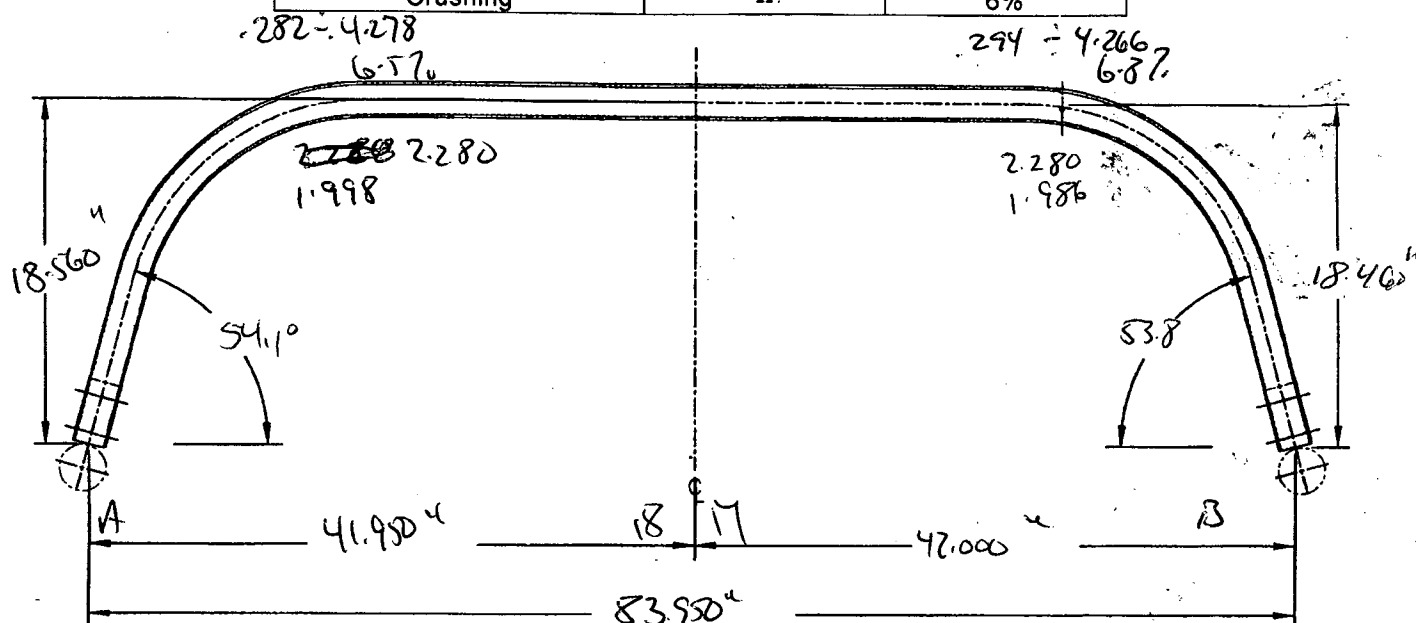
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DAS
31
9-89

M126319

DART AEROSPACE LTD		Work Order:	114854
Description: Crosstube Mid Aft (206L)		Part Number:	D206-667-207
Inspection Dwg: D206-667-247	Rev: A	Page 1 of 1	

Required Dimension	Min	Max
Height	18.34	18.60
1/2 Span	41.79	42.05
Angle	54°	56°
Total Span	83.59	84.09
Bending Passes	10	--
Crushing	--	6%



	Side A	Side B
Bending Passes	18	17
Crushing	6.57	6.87
Comments		
Side A - 6.57% crush @ 18 Passes		
Side B - 6.87% crush @ 17 Passes		

QC15 Inspection	DAS
Date	16 14/06/02
	9-89

Rev	Date	Change	Revised by	Approved
A	12.02.15	New Issue	KJ	
B	12.04.16	Added bending, crushing dimensions	KJ	

Item	Qty -247	Part Number	Description
1	X	D206-667-247	CROSSTUBE ASSEMBLY (206L MID AFT)
2	1	D6004-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2892-1	SUPPORT
6	4	D3595-063-450	RUBBER CUSHION
7	4	MS21920-22	CLAMP
8	14	MS20601AD4W10	RIVET (OR NAS9302B-4-10)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299- 947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6004-115
FINISHED LENGTH = 99.76±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-247" AND BATCH NUMBER ON
INSIDE OF CUFF PER DART QSI 044 6.4 (VIBRATING STYLUS).
- 7) WEIGHT: 21.1 lbs (-607 = 17.7 lbs)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY.
TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE
TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2892-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI
015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-22 CLAMPS WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE
D2892-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE
LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN
SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

114854 MJS
14-03-17

DEO ATTACHED

SCW #11-615

11.07.28

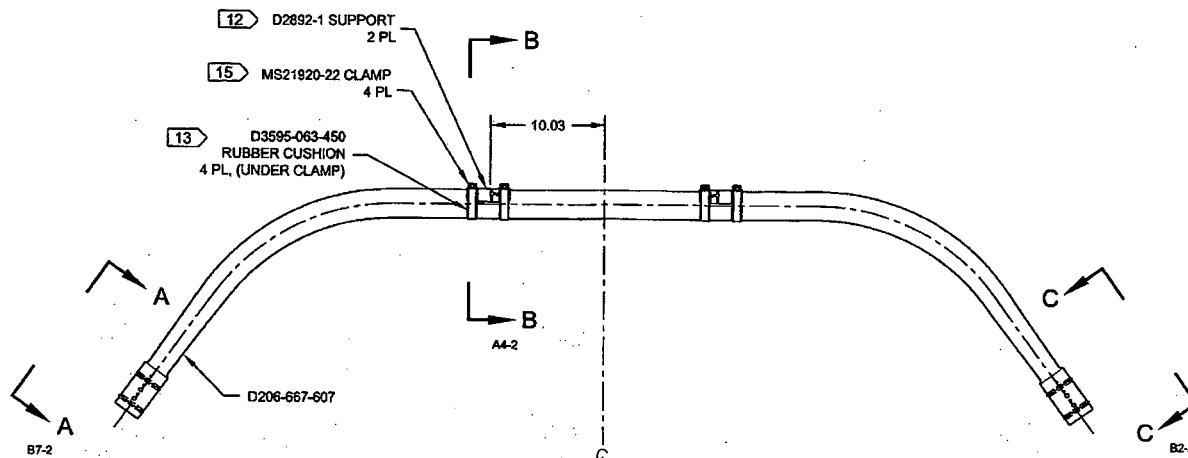
UNDER REVIEW

RELEASED
2011-05-24

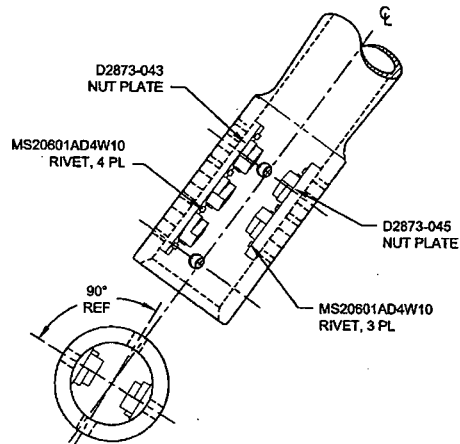
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REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.12.23		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D206-667-247	REV. A SHEET 1 OF 4
TITLE CROSSTUBE ASS'Y (206L MID AFT)	SCALE NTS
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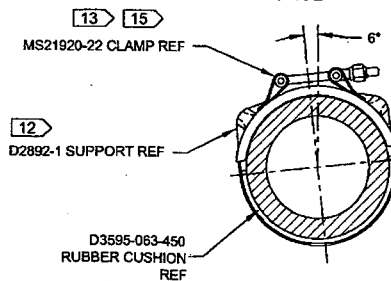
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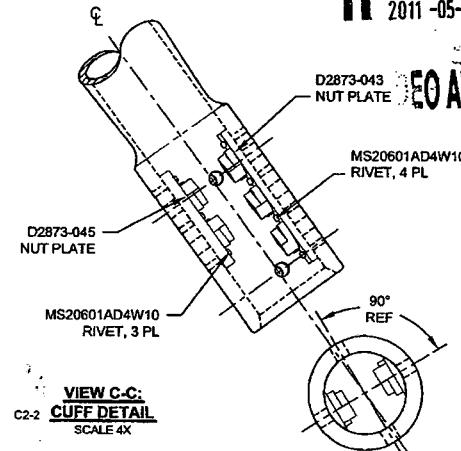
D206-667-247
ASSEMBLY DETAIL
(VIEW LOOKING FWD)



VIEW A-A:
CUFF DETAIL
SCALE 4X



SECTION B-B
SCALE 5X



VIEW C-C:
CUFF DETAIL
SCALE 4X

6011(-615)
11.07.28

UNDER REVIEW

RELEASED
2011-05-24

EO ATTACHED

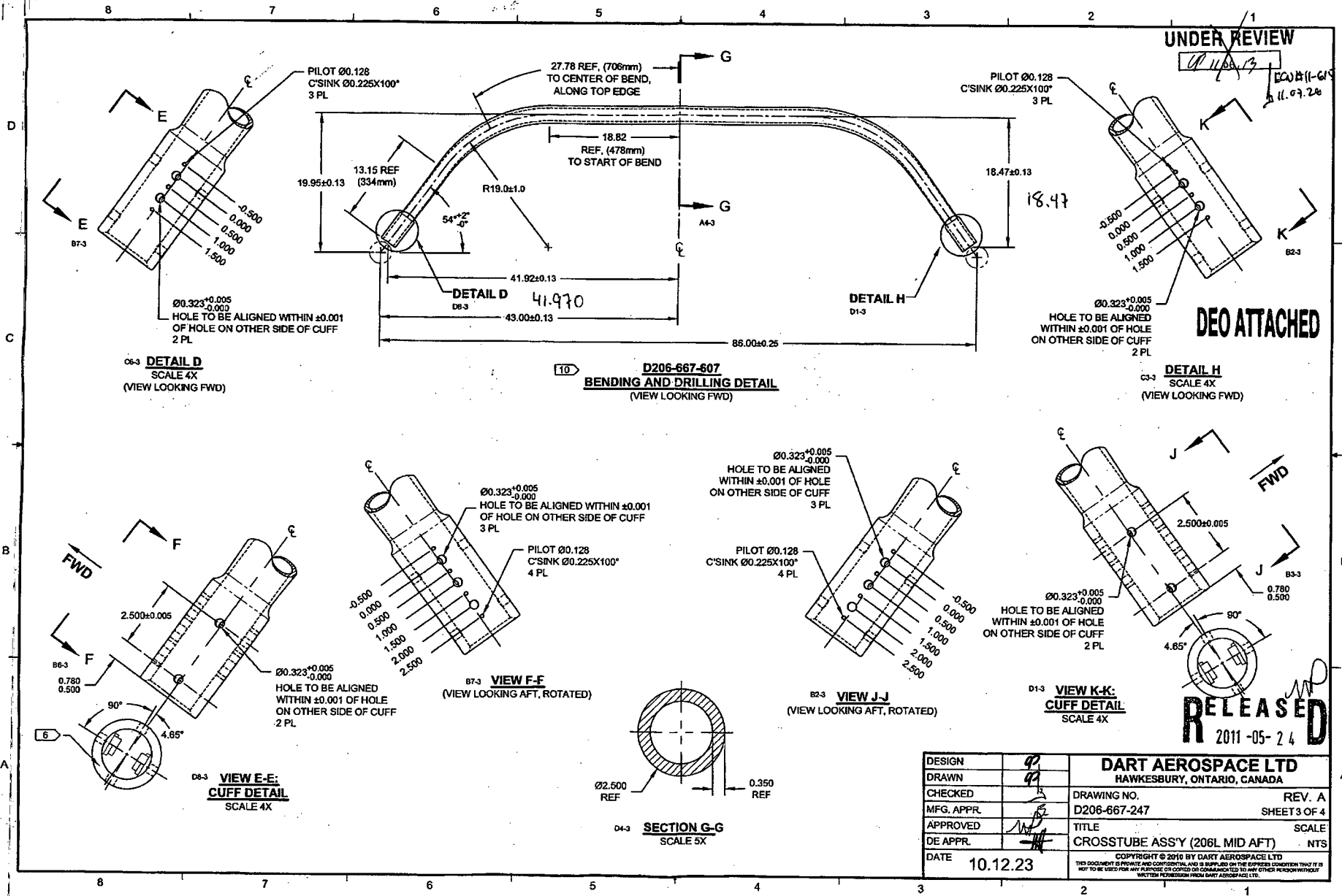
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DRAWN	99	HAWKESBURY, ONTARIO, CANADA	
CHECKED	99	DRAWING NO.	REV. A
MFG. APPR.	99	D206-667-247	SHEET 2 OF 4
APPROVED	99	TITLE	SCALE
DE APPR.	99	CROSSTUBE ASS'Y (206L MID AFT)	NTS
DATE	10.12.23	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
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UNDER REVIEW

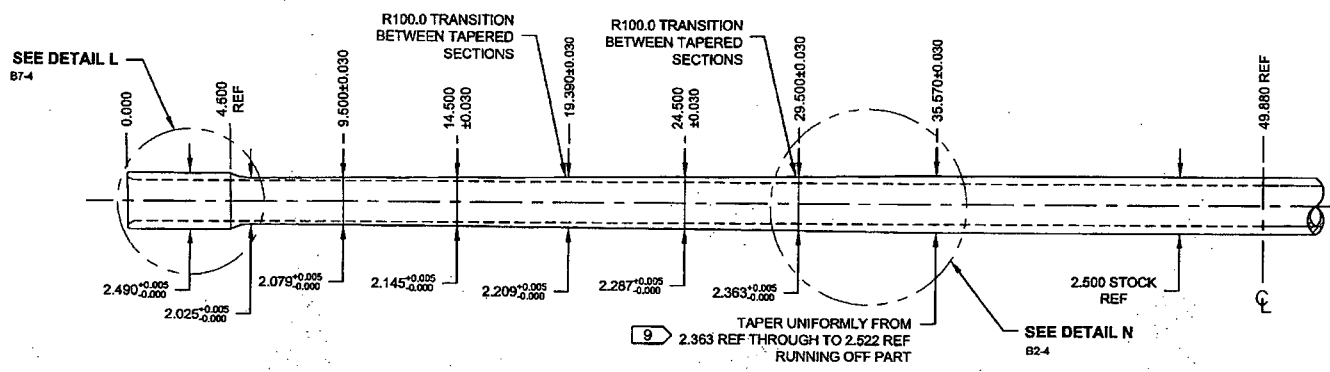
11.07.20

DEO ATTACHED

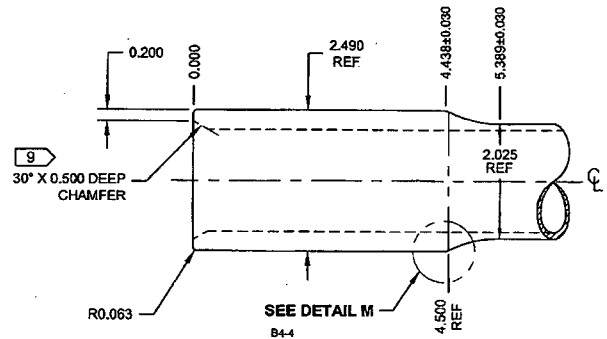
RELEASED
2011-05-24



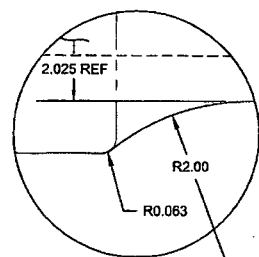
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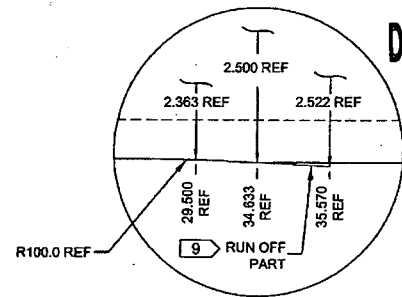
TURNING DETAIL



C7-4 DETAIL L: CROSSTUBE CUFF
SCALE 2.5X



B6-4 DETAIL M:
CUFF TRANSITION
NOT TO SCALE



DETAIL N:
C4-4 TAPER RUN-OFF
NOT TO SCALE

BCW #11-615
11.07.28
UNDER REVIEW
11.06.13

DEO ATTACHED

RELEASED
2011-05-24

DESIGN	99	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	99	DRAWING NO.	REV. A
CHECKED		D206-667-247	SHEET 4 OF 4
MFG. APPR.		TITLE	SCALE
APPROVED		CROSSTUBE ASS'Y (206L MID AFT)	NTS
DE APPR.		COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR FOR ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	10.12.23		

D206-667-247

Tangent lines

Center line

15" from CUFF

19" from Center line

2-Set-up

2.5" Rollers WITH 1.6" Spacers

Buggy A - 3.125"

All programs run with long end of tube on **LARGE TABLE**

3-BENDING:

Step 1: Y 3290 W 1580

Run program 206247 1-2-3-4 from 19" line down taper, buggy A on Cuff.
then CHECK

Step 2: Y 3340 W 3440

run program 206247 10 (check), 11 - 11a - b - c - d check , from 15" line

drill table setup: red towers #4, bottom support towers "loose"

14/03/12.. Bent tubes with programs, (1-4 CHECK, 10 CHECK, 11-11d
CHECK, 11e-11h CHECK

11i,1J etc.. checking between each!)

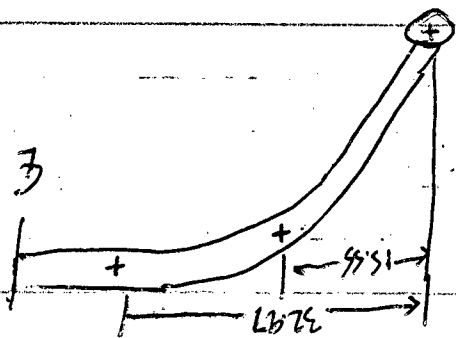
1
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11n



CRUSHING OF 1206-667-207

Acceptability of 8% CRUSHING AT END OF BEAD



Point A: $OD_1 = 2.43, OD_2 = 2.07$

CRUSHING = $(2.43 - 2.07) / (2.43 + 2.07) = 8\%$

From average

Point B: $OD = 2.50 \text{ in. } (1) = 1.80 \text{ in.}$

$I = 1.402$

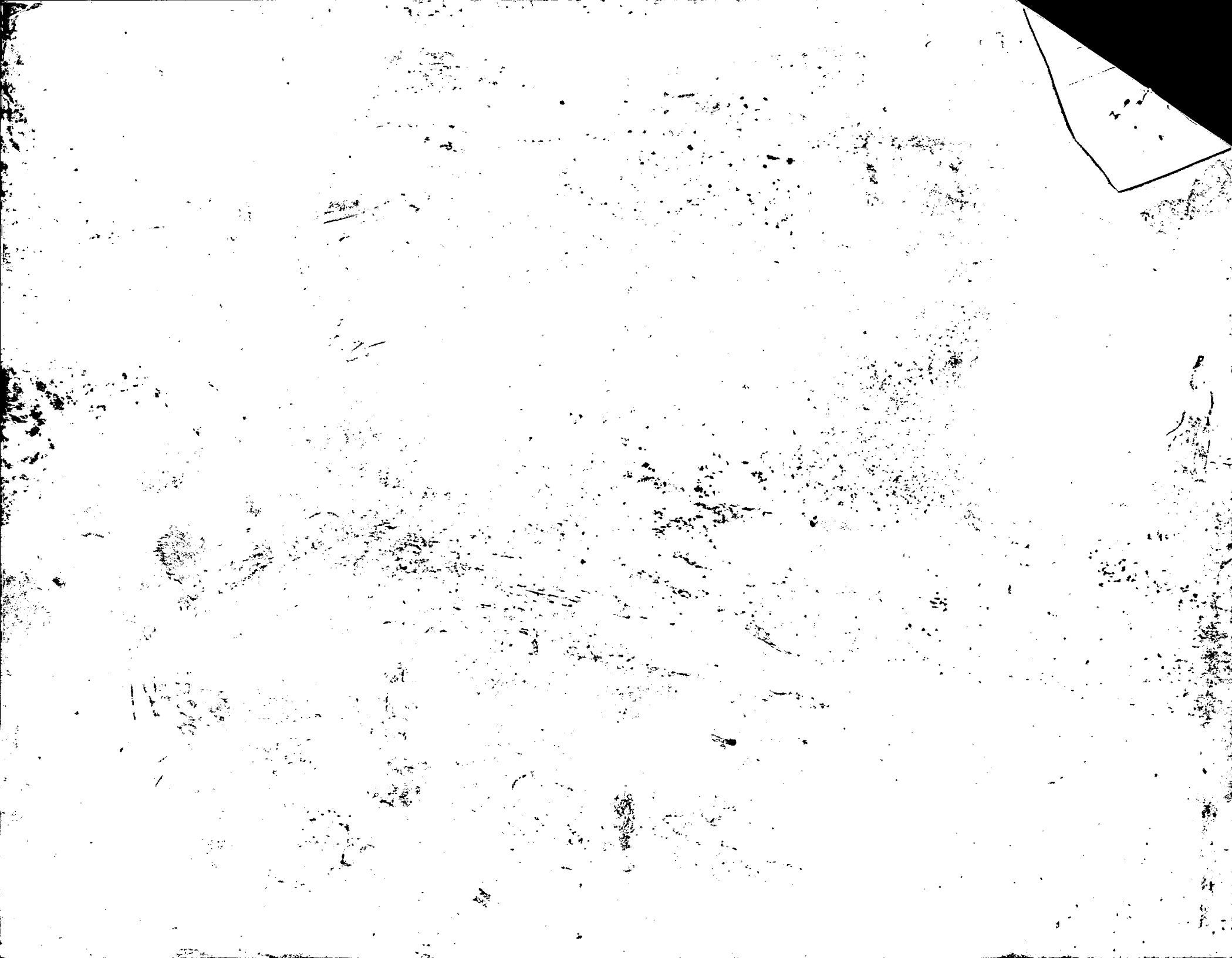
A: $E = M_c / I = P \times 15.55 \times 2.07 / 2 \times 0.551 = 29.21 \cdot P$
 B: $= P \times 32.97 \times 2.50 / 2 \times 1.402 = 29.39 \cdot P$

$M_S = 29.35 / 29.21 - 1 = 0.01$

The will break at support before area of high crushing. 8% crushing up to middle of bend is acceptable.

13/1/22

Handy





skyservice
Air travel. Evolved.

NDT Work Order

Sky Service F.B.O. Inc.

DOT APP 53-89 / EASA 145.7142 / BDA/AMO

WO #: YYZ

70275

Customer: DART AEROSPACE

Dept: NDT YYZ

Reference: 24484

Make:

Model:

Reg:

A/C S/N:

TSN:

CSN:

TSO:

Tail#:

Task: ☒ Scheduled ☐ Unscheduled ☐ A.O.G. ☒ X.P.T. ☐ M.T. ☐ E.T. ☐ U.T. ☐ R.T.

Work Required:

① CARRY OUT NDT ON FOLLOWING AFT MID HEIGHT CROSSTUBES

ITEM ID: D206-667-207BL IAW ASTM E1417-M13

WORK ORDER ID'S = 114855; 114854; 114579; 114578

② CARRY OUT NDT ON FOLLOWING FWD CROSSTUBES

ITEM ID: D212-664-101 IAW ASTM E1417-M13

WORK ORDER ID'S = 119544; 119543; 119542; 119541

Action Taken:

Date:

Initial/Stamp:

① LIQUID PENETRANT + EDDY CURRENT INSPECTIONS

CARRIED OUT ON AFT MID HEIGHT CROSSTUBES 05 JUN 2014

WD'S 114855, 114854, 114579; 114578

NO CRACKS FOUND



② LIQUID PENETRANT + EDDY CURRENT INSPECTIONS

CARRIED OUT ~~OUT~~ ON FWD CROSSTUBES 05 JUN 2014

WD'S 119544, 119543, 119542, 119541

NO CRACKS FOUND



PENETRANT - ARDROX 970 P25E BATCH

023/2131

ET - NORTEC 500S SNT-20656 CAL DUE

30 JAN 2015

I certified that the maintenance described above has been performed with the applicable standard of airworthiness.

Signature:

Name:

GARY SMITH

ACA/SCA Stamp



Date:

05 JUN 2014

Order ID 114854

114854

Page 1

3/17/14 8:26:09 AM

Item ID: D206-667-207BL

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Aft Mid Height Crosstube 206L/L1/L3/L4, Blue

Start Date: 3/17/14 Start Qty: 1.00

1

Cust Item ID:

Required Date: 3/31/14 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 14-03-17

Tooling:

Date:

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D206-667-247	A (DEO)
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IIN-D206-667	D
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100

Document Control

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile and create labels as per PPP D206-667-207 chg 002

110

BENDING MACHINE - CROSSTUBES

0.00

110

CNC Bend 2

Memo

0.00

CNC Alpha 160 Bender

Bend tube as per Dwg D206-667-247 using CNC bender program D206-667-207

MLJ 14-06-16JW 14-05-28

PDC

